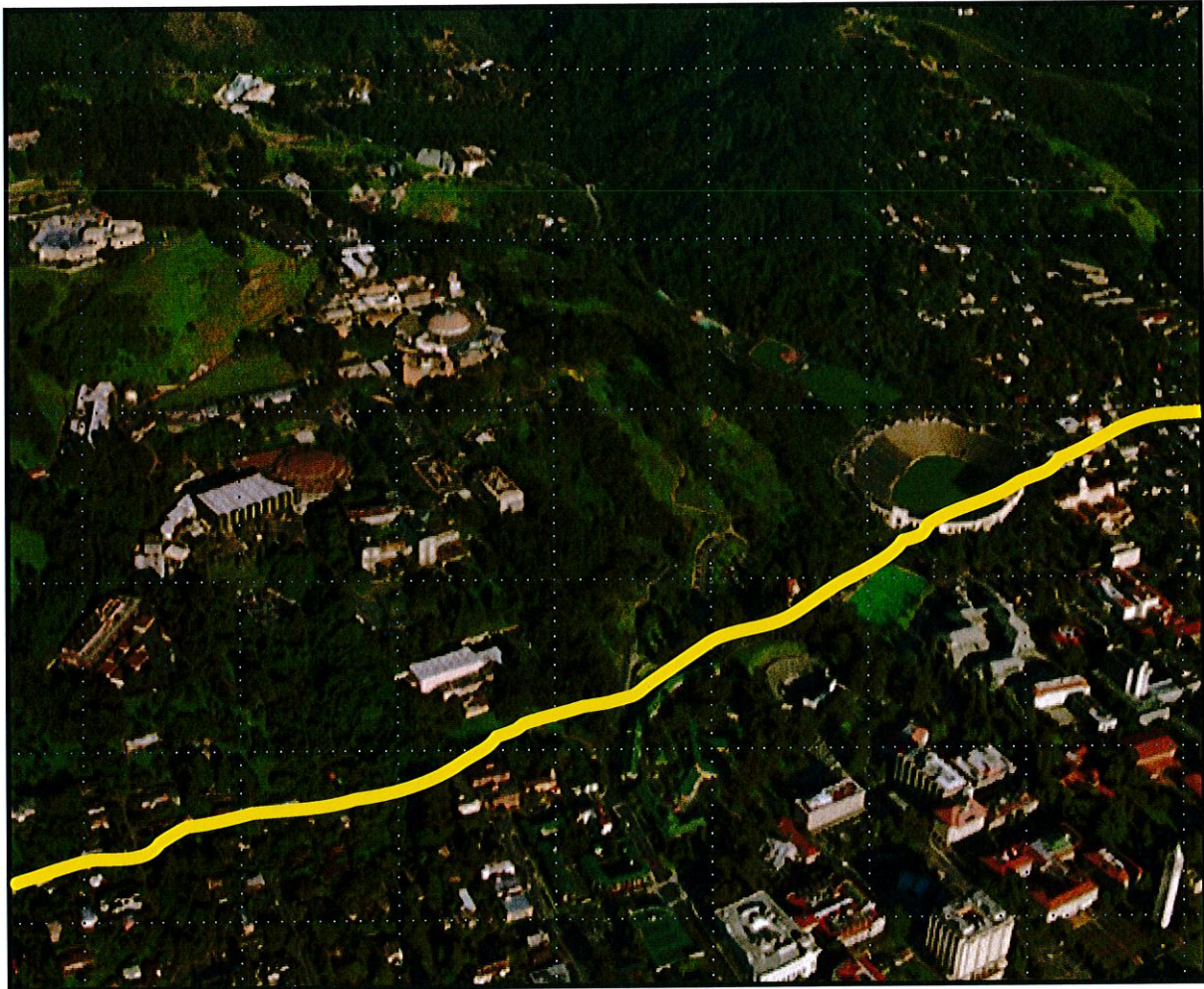


Emergency Management Annual Drop, Cover, Hold and Evacuation Drill



Date: October 21, 2010

**Title: “Great ShakeOut”
After Action Report**

LBNL/Great ShakeOut Exercise
Effective Date: November 2010

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EXERCISE AFTER ACTION REPORT EMERGENCY MANAGEMENT EXERCISE

Great ShakeOut 2010

Exercise Summary

Lawrence Berkeley National Laboratory conducted a site wide drill titled: 'Great ShakeOut 2010'. The drill was conducted on Thursday, October 21st, 2010, at 10:00 a.m. The purpose of the drill was to validate the effectiveness of the emergency response organization in accordance with the site's emergency plan and procedures and the DOE Order 151.1C.

The goal of the drill was to evaluate the LBNL employees' ability to implement protective actions - Drop, Cover, Hold and Evacuate and the Building Emergency Team (BET) to facilitate that evacuation.

Evaluation of the Great ShakeOut drill was conducted using 2 different methods of evaluation. The first was a survey, which was sent out to all Lab employees via a Level 1 email. The second was to provide 8 evaluators to a specific building, B90, to evaluate the drill process. This report includes both evaluations and improvement items.

Participant List and Levels of Participation

Participant	Level of Participation
Exercise Control and Evaluation	Full
Building Emergency Team	Full
LBNL Employees	Full
Building 90 BET	Full
Building 90 Employees	Full

Findings/ Improvement Items Summary

The response was evaluated against 29 exercise objectives. 4 objectives were not met (B90 BET.9, B90 BET.10, B90 BET.11, B90 BET.13). 3 objectives were not observed (BET.9, BET.10, and BET.11). 10 improvements were found (I13, I14, I15, I16, I17, I18, I19, I20, I21, and I22.).

Participant Performance Summary

Organization	Number of Objectives	Met	Not Met	Findings	Improvement Items	Superior Performance	Noteworthy Practices	Not Applicable	Not Observed
Exercise Control and Evaluation	1	1	0	0	6	0	0	0	0
Building Emergency Team	11	8	0	0	4	0	0	0	3
LBNL Employees	3	3	0	0	0	0	0	0	0

Organization	Number of Objectives	Met	Not Met	Findings	Improvement Items	Superior Performance	Noteworthy Practices	Not Applicable	Not Observed
Building 90 BET	11	7	4	0	4	0	0	0	0
Building 90 Employees	3	3	0	0	0	0	0	0	0
Exercise Totals	29	22	4	0	10	0	0	0	3

Improvement Items

Building 90 BET	
Improvement Item	Recommended Action
(Objective: B90 BET.9) I13: The elevator was not monitored, nor was there any type of notice (signs, caution tape) to not use the elevator, during the evacuation.	Provide refresher training for BET members regarding the task of assigning BET members to monitor elevator or to put up sign to not use the elevator, prior to evacuating building. Responsible Organizations: ESP, BET Completion Date: 3/31/2011
(Objective: B90 BET.10) I14: BET members not assigned to monitor stairwells for safe egress.	Provide refresher training for BET members regarding the task of assigning BET members to monitor for safe egress when evacuating building. Responsible Organizations: ESP, BET Completion Date: 3/31/2011
(Objective: B90 BET.11) I15: Exits from buildings were not monitored for safe egress.	Provide refresher training for BET members regarding the task of assigning BET members to monitor exits for safety prior to evacuating building. Responsible Organizations: ESP, BET Completion Date: 3/31/2011
(Objective: B90 BET.13) I16: BET Lead didn't wait for the EOC to give the "All clear" sign to re-enter building.	Provide refresher training for BET members regarding the necessary communications with the EOC to provide incident status and to receive instructions prior to the BET Lead giving the employees an "all clear" to re-enter building. Responsible Organizations: ESP, BET Completion Date: 3/31/2011

Exercise Control and Evaluation	
Improvement Item	Recommended Action
I17: B90 Computer Lab had a class going on. The students weren't given instructions regarding exits to use or where to go after exiting the building should an incident happen. When the drill began, the students did drop, cover, hold and evacuate the building. They were then lead to the emergency assembly area.	Instructors should provide protective action information along with other information such as exits, bathrooms, and other building information. Responsible Organizations: ESP Completion Date: 3/31/2011

Exercise Control and Evaluation	
Improvement Item	Recommended Action
I18: Busses and other vehicles were driving around the Lab during the drill.	Include in exercise development transportation issues. Include whether limited traffic can be allowed or diverted or stopped completely during exercise. Responsible Organizations: ESP Completion Date: 10/20/2011
I19: People were kept outside too long while a lab wide building status was completed.	TABL articles for evacuation drills/exercises should include information that the drill will take approximately 40 minutes to complete due to the building status review per procedures. Responsible Organizations: ESP Completion Date: 10/21/2011
I20: Exercise message hard to understand and/or hear the speaker over the PA system.	Review message for drop, cover and hold, and evacuation, for clarity and add statement reminding employees to take their personal belongings with them. ESP staff practice speaking over PA system. Responsible Organizations: ESP Completion Date: 10/21/2011
I21: Location of emergency assembly areas for Buildings 66, 69/75, 71 and 88 may need to be revised.	Review location of emergency assembly areas for Buildings 66, 69/75, 71 and 88. Responsible Organizations: ESP Completion Date: 4/29/2011
I22: Emergency Assembly Areas could be numbered and also directional arrows directing employees to Emergency Assembly Areas.	Have Emergency Assembly Areas signs numbered and also add directional arrows for the direction of employees to Emergency Assembly Areas where needed. Responsible Organizations: ESP Completion Date: 4/29/2011

Exercise Scenario

LBNL participated in the annual State of California Great ShakeOut earthquake drill. The drill was based on an earthquake rupturing on a nearby fault. All LBNL employees were to drop, cover, and hold and then evacuate buildings. After evacuating, the employees were to proceed to the Emergency Assembly Areas and wait for further instructions. Once all buildings had been evacuated and the radio status checks had been completed, staff were allowed to reenter the buildings.

Exercise Objectives

Building 90 BET			
Building 90 BET was assigned and evaluated against 11 Exercise Objectives. They met 7 of the assigned objectives and failed to meet 4.			
Obj. Id.	Objective Statement	Results	Comments
B90 BET.3	Given a building evacuation, BET had their personal protective equipment (vests and hard hats) in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.4	Given a building evacuation, BET removed radios from buildings in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.5	Given a building evacuation, BET removed trauma kits from building in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.6	Given a building evacuation, BET conducted a sweep of the building in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.7	Given a building evacuation, BET verified areas searched, overall status of floors, injured and missing, in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.9	Given a building evacuation, BET monitored elevator(s) or posted signs stating not to use the elevator during an evacuation in accordance with BET Evacuation Duty Guidelines.	Not Met	I13:
B90 BET.10	Given a building evacuation, BET monitored stairwells for safe egress in accordance with BET Evacuation Duty Guidelines.	Not Met	I14:
B90 BET.11	Given a building evacuation, BET monitored exits for safe egress in accordance with BET Evacuation Duty Guidelines.	Not Met	I15:
B90 BET.12	Given a building evacuation, BET put measures in place to control re-entry of building in accordance with BET Evacuation Duty Guidelines.	Met	
B90 BET.13	Given a building evacuation, BET communicated with EOC to secure an "All clear" for entrance back in to the building, during the radio check in accordance with BET Evacuation Duty Guidelines.	Not Met	I16:

B90 BET.14	Given a building evacuation, BET communicated with employees that they could re-enter the building in accordance with BET Evacuation Duty Guidelines.	Met	
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Building 90 Employees

Building 90 Employees was assigned and evaluated against 3 Exercise Objectives. They met 3 of the assigned objectives and failed to meet 0.

Obj. Id.	Objective Statement	Results	Comments
B90 Employees.1	Given an announcement of an earthquake, employees dropped, covered and held Personal Evacuation Guidelines and the Emergency Preparedness Guidelines.	Met	
B90 Employees.2	Given an announcement that the earthquake had stopped, employees evacuated the building in accordance with Personal Evacuation Guidelines and the Emergency Preparedness Guidelines.	Met	
B90 Employees.3	Given a building evacuation, employees exited the building to the designated assembly area in accordance with Personal Evacuation Guidelines and Emergency Response Guidelines.	Met	

Building Emergency Team

Building Emergency Team was assigned and evaluated against 11 Exercise Objectives. They met 8 of the assigned objectives and failed to meet 0.

Obj. Id.	Objective Statement	Results	Comments
BET.3	Given a building evacuation, BET had their personal protective equipment (vests and hard hats) in accordance with BET Evacuation Duty Guidelines.	Met	
BET.4	Given a building evacuation, BET removed radios from building in accordance with LBNL BET Evacuation Guidelines.	Met	
BET.5	Given a building evacuation, BET removed trauma kits from building in accordance with BET Evacuation Duty Guidelines.	Met	
BET.6	Given a building evacuation, BET conducted a sweep of the building in accordance with BET Evacuation Duty Guidelines.	Met	
BET.7	Given a building evacuation, BET verified areas searched, overall status of floors, injured and missing, in accordance with BET Evacuation Duty Guidelines.	Met	

BET.9	Given a building evacuation, BET monitored elevator(s) or posted signs stating not to use the elevator during an evacuation in accordance with BET Evacuation Duty Guidelines	Not Observed	
BET.10	Given a building evacuation, BET monitored stairwells for safe egress in accordance with BET Evacuation Duty Guidelines.	Not Observed	
BET.11	Given a building evacuation, BET monitored exits for safe egress in accordance with BET Evacuation Duty Guidelines.	Not Observed	
BET.12	Given a building evacuation, BET put measures in place to control re-entry of building in accordance with BET Evacuation Duty Guidelines.	Met	
BET.13	Given a building evacuation, BET communicated with EOC to secure an "All clear" for entrance back in to the building, during the radio check in accordance with BET Evacuation Duty Guidelines.	Met	
BET.14	Given a building evacuation, BET communicated with employees that they could re-enter the building in accordance with BET Evacuation Duty Guidelines.	Met	

Exercise Control and Evaluation

Exercise Control and Evaluation was assigned and evaluated against 1 Exercise Objectives. They met 1 of the assigned objectives and failed to meet 0.

Obj. Id.	Objective Statement	Results	Comments
C/E.19	Given completion of an emergency management/preparedness drill/exercise, draft and technically review the After Action Report in accordance with <site's procedure>.	Met	

LBNL Employees

LBNL Employees was assigned and evaluated against 3 Exercise Objectives. They met 3 of the assigned objectives and failed to meet 0.

Obj. Id.	Objective Statement	Results	Comments
LBNL Employees.1	Given an announcement of an earthquake, employees dropped, covered and held in accordance with Personal Evacuation Guidelines and the Emergency Preparedness Guidelines.	Met	

LBNL Employees.2	Given an announcement that the earthquake had stopped, employees evacuated the building in accordance with Personal Evacuation Guidelines and the Emergency Response Guide.	Met	
LBNL Employees.3	Given a building evacuation, employees exited the building to the designated assembly area in accordance with Personal Evacuation Guidelines and Emergency Response Guidelines.	Met	